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ABSTRACT

This study examined the potential of indicators such as student learning approaches, student self-concept, and attitudes to school life to discriminate between high and low performing secondary schools as categorized by external achievement measures. The sample consisted of 10 Adelaide (South Australia) schools: 5 of the highest performing schools and 5 of the lowest performing schools ranked by the number of university places offered to school graduates. About 90 Year 11 students from each school completed questionnaires administered in the penultimate term of the school year. Students provided data on their self-concept, attitudes towards school, and approaches to learning. Approximately 20 teachers from each school provided data on school organization and leadership, and perceptions of school outcomes related to their own performance, student performance, school culture, and the curriculum. Analysis found no significant differences overall between high and low performance schools on students' approaches to learning. However, students in the academically successful schools were found to have more general satisfaction with school life, higher feelings of adequacy in interactions with teachers, and higher sense of prestige. Teachers in high performance schools saw their school's leadership as bureaucratic, task and policy driven, and reacting to change independently of staff needs and concerns. These results indicate that high performance schools are more likely to provide quality schooling than low performance schools; high achieving schools provide a context for working and learning that is more effective across a range of school outcomes. The appendix contains 6 additional tables. (Contains 31 references.) (JB)

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QUALITY SCHOOLING VERSUS SCHOOL PERFORMANCE: WHAT DO STUDENTS AND TEACHERS THINK?

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Quality Schooling Versus School Performance: What Do Students And Teachers Think?

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Introduction

Schools make a difference - but in what way? Studies of school effectiveness refer to a variety of objective measures of student performance to differentiate between high and low performing schools. Although schools are concerned with broad and diverse aspects of learning, the student learning outcomes associated with effective schools are more narrowly related to achievement test scores.

Schools are complex learning organisations and more is demanded of them than is reflected in the criteria used to judge their performance. This is indicated clearly in the employability skills identified by Canadian companies: "people who can communicate, think and continue to learn throughout their lives; people who can demonstrate positive attitudes and behaviors, responsibility and adaptability; and people who can work with others" (McLaughlin, 1992).

McGaw, Piper, Banks, & Evans (1992) report that the Australian school community has very different expectations of schooling from those identified in the effective schools literature.

School effectiveness is about a great deal more than maximising academic achievement. Learning, and the love of learning; personal development and self-esteem; life skills, problem solving and learning how to learn; the development of independent thinkers and well-rounded, confident individuals; all rank as highly or more highly as the outcomes of effective schooling as success in a narrow range of academic disciplines.
(McGaw, et al, 1992, p. 174)

Quality schooling has to do with more than academic achievement. Recent indicators of school effectiveness include student attitudes to school subjects (Knuver & Brandsma, 1993), student engagement, and teacher satisfaction and commitment as well as academic performance (Lee, Bryk, & Smith, 1993). If we are to study school effectiveness in relation to the all-round development of students then Mortimore (1992) argues that we need to consider a broader range of outcome measures. Data from a study of Secondary schools in Australia (Ainley, 1994) support the proposition that Secondary schools tend to be effective across a range of outcomes and that they can be effective in some things but not others. Ainley found positive associations linking student attitudes to school and achievement growth.

This exploratory study examines the potential of indicators such as student learning approaches, student self-concept, and attitudes to school life to discriminate between high and low performing Secondary schools which are categorised on the basis of external achievement measures. It also examines teachers' perceptions of school organisation and leadership and how they characterise high and low performing schools. An important feature of this work is that, in addition to the external measure of student performance, students' perceptions of school life and teachers' perceptions of school organisation and leadership provide data on the social/cultural role of the school.

Student learning approaches

In the Australian school community effective learning and learning how to learn are regarded as important identifiers of quality schooling. Students' approaches to learning and studying have been linked both to the quality of their learning and to their academic achievement (Newble, Entwistle, Hejka, Jolly, & Whelan, 1988). The research on approaches to learning gives strong support to the view that successful learning outcomes are aligned to 'deep' and 'deep achieving' approaches and that students can be taught to adopt these approaches.

The concept of approaches to learning and studying has emerged from the work of many researchers (Biggs, 1987a; Marton & Saljo, 1976; Newble, et al, 1988; Ramsden, 1988; Svensson, 1977). An approach to learning can be viewed as a composite of motive and strategy where the students' motives drive the strategies employed. Students motivated to pass with minimum effort and satisfied to meet minimum standards are likely to target their learning to the bare essentials, reproducing information through rote learning on the whole. Such surface motives and strategies result in a 'surface' approach to learning (Biggs, 1987b).

Students who are intrinsically motivated in what is being learned search for meaning by reading widely and relating new material to previous knowledge to develop competence in their subjects. Such deep motives and strategies represent a 'deep' approach to learning. Students who are motivated to achieve high grades and seek ego enhancement are likely to organise their time, energy and resources efficiently; that is, to behave as 'model' students. Such students exhibit an 'achieving' approach to learning.

Ramsden, Martin, & Bowden (1987) argue that student learning approaches can usefully broaden the meaning of school effectiveness.

The literature on student learning also offers an escape from the impasse created by excessive reliance on a single criterion of school effectiveness (external examination results). Deep approaches, as they are functionally related to higher quality learning outcomes, can be regarded as intervening variables between teaching methods and learning outcomes.
(Ramsden et al, 1987, pp. 3)

Ramsden et al (1987) also point out that approaches to learning can be considered as outcomes of schooling, valuable in themselves in assisting students to learn how to learn.

The Learning Process Questionnaire (Biggs, 1987b) is used in this study to assess students' deep, surface and achieving approaches to learning. If deep and achieving approaches indicate higher quality learning outcomes then these are the orientations to learning that schools should be striving to foster in their students. This study examines whether high performance schools differ significantly from lower performance schools with respect to student approaches to learning. Can high performance schools be distinguished from low performance schools by the approaches to learning employed by their students?

Student attitudes to school life

Ramsden et al (1987) have found strong support for a link between approaches to learning and students' perceptions of the year 12 environment.

A combination of aims that are perceived to be clearly defined, a degree of student choice over study methods, a firm (but not excessive) stress on academic goals, and the experience of supportive, well-structured teaching provides fertile conditions for high quality learning to take place. A very strong emphasis on examination performance induces, in some students at least, a tendency towards rote learning, a focus on the extrinsic rewards of studying, and remorseless competitiveness. (Ramsden, et al, 1987, p. 16)

The interrelationship between approaches to learning and students' perceptions of the school environment indicates the importance of examining both variables as potential indicators of school performance.

Early school achievement is known to influence students' participation in post compulsory schooling and completion of Year 12 (Williams, 1987). The effects of school environment on students' continuation in schooling and beyond have not been as carefully researched. However, Ainley, Batten, and Miller (1984) concluded that students' feelings of success related to their work and general satisfaction with school influenced their intention to remain at school. Although the role of intervening variables arising from school experience is not well understood, the evidence

suggests that students' feelings about their experience of the school environment contributes to shaping their educational plans (Ainley, Foreman, & Sheret, 1991). Therefore, students' sense of achievement and attitudes toward the quality of school life are likely indicators of school performance.

The School and You Questionnaire assesses students' attitudes to school life based on a model developed by Williams and Batten (1981) of the quality of life within schools from the perspective of students. Independence of the domains that comprise the model is not assumed but together they constitute a view of the elements of school life for students. Ainley et al (1991) reported studies using the instrument indicating that scale scores are not related to student background. In the current study seven domains of school life are explored: general satisfaction, negative affect, achievement, opportunity, status, social integration and relations with teachers. Do students' positive attitudes toward school and overall satisfaction with school life differentiate between high and low achieving schools? Are students more positive about school life in high performing schools than in low performing schools and thus more likely to succeed at school and to further their education?

Student self-concept

"A positive self-concept is valued as a desirable outcome in many educational settings and is frequently posited as a mediating variable that facilitates the attainment of other desired outcomes such as academic achievement" (Marsh, 1990a, p. 646). Students' learning styles and students' self-concept are viewed as interrelated. Schmeck, Geisler-Brenstein, & Cerey (1991) suggest that self-concept also influences the learning approach of students. In turn, the learning strategies that result in successful learning would be expected to influence positively students' academic self-concept. So too, students' quality of school life is influenced by their perceived success in learning and the extent to which school experiences contribute to helping students feel good about themselves.

The Self Description Questionnaire-III (Marsh & O'Neill, 1984) was used to collect data on student self-concept. Research using the SDQ justifies the distinction between 13 separate areas of self-concept that comprise the SDQ scales. Four academic factors are identified: Math, Verbal, General Academic, and Problem Solving. The eight non academic self-concept scales are Physical Ability, Appearance, Relations with Same Sex, Relations with Opposite Sex, Relations with Parents, Spirituality/Religion, Honesty/Trustworthiness, and Emotional Stability. A General Self-Esteem scale is also available that infers an overall self-perspective. However, Marsh (1990b) cautions that "because the specific facets of self-concept are so distinct, the diversity of self-concept cannot be adequately reflected in a single score" (p.13).

The theoretical base for the SDQ is that self-concept is multi-faceted. According to Marsh (1990), much of the confusion evident in the self-concept research literature prior to 1980 is due to a lack of recognition that self-concept is multi-dimensional. Marsh observed that when self-concept is represented as a single, general construct, such as General Esteem, it appears that self-concept is largely unaffected by academic achievement and, in turn, that academic achievement is relatively unaffected by general esteem (Marsh, 1990b, p.35). With regard to Marsh's findings, studies seeking to investigate relationships between academic performance and self-concept need to consider students' self-concepts as they relate specifically to the academic context. The evidence is that when specific facets of self-concept, such as Math self-concept and Verbal self-concept, are considered separately, achievement may be more meaningfully interpreted in the academic areas which they reflect.

There is considerable accumulated evidence to support a strong interrelationship between academic self-concept (not general self-concept) and academic achievement with other academic behaviours (Marsh, 1990a). It is predicted that students' academic self-concept will discriminate between high and low performance schools. High performance schools are expected to encourage academic success which is known to support a positive self-concept.

Leadership and school organisation

If students' perceptions of the school environment are recognised as the first element contributing to effective schools, then the second element are the teachers. Their perceptions of the school as an organisation and how it is managed, as well as satisfaction with school leadership, would influence teachers' commitment to teaching and student learning. In a study of 1490 Australian final year secondary students and their approaches to learning, Ramsden et al (1987) found a wide variation between schools in the quality of learning evoked. This finding led them to ask what organisational practices distinguish the schools that appear to offer environments conducive to learning? They suggested that key factors of school effectiveness such as purposeful leadership and teacher involvement in curriculum planning are likely to distinguish schools that appear to offer more favourable contexts for learning.

This study uses the Leadership in Schools Questionnaire (Silins, 1994; Silins, 1993) to collect data on teachers' perceptions of school leadership and the organisation of the school, as well as teachers' views on the quality of school outcomes related to students, the curriculum, teachers, and cultural life of the school. The leadership scale consists of constructs drawn from perspectives on transformational and transactional leadership found in the Australian literature (Beare, Caldwell, & Millikan, 1989; Caldwell & Spinks, 1992; Duignan & Macpherson, 1992), as well as constructs associated with a model of leadership originally offered by Bass (1985) and later developed by Bass and Avolio (1990).

Part A of the questionnaire identifies eight leadership factors: Vision, Goal Achievement, Intellectual Stimulation, Individual Consideration, Collaborative Problem Solving, Ethos, Technical/Bureaucratic Orientation and Management-by-exception. Part B consists of items representing constructs relating to the quality of school organisation and outcomes such as Student Outcomes, Curriculum, Teacher Outcomes and School Culture.

Effective leadership in schools has often been associated with effective schools, but in Australia, studies have not established a link between leadership practices of principals and improved student performance (McGaw et al, 1992). This study will provide an initial test of this link by seeking to resolve which constructs of leadership distinguish between the high and low performance schools. An additional, important question to consider is which leadership and organisational factors contribute to providing more favourable contexts for learning?

Method

School selection and sampling procedure

The participating schools in this study were drawn from a range of non government schools in Adelaide, South Australia. Selection and categorisation of schools as low and high performance was based on public information on the number of tertiary places offered to year 12 students by school, available from The South Australian Tertiary Admission Centre (SATAC). The criterion used to categorise each school as either high or low performance was the number of university places offered to students at that school. Offers of university places are made to students who have completed year 12, applied to enrol into selected courses and have achieved a sufficiently high score to gain entry.

An index was calculated for each school taking the ratio of the number of offers made to the total number of year 12 students. This index reflected the achievements of the year 12 students and was used as a performance indicator to represent each school's achievement outcome for that year. The sample of schools consisted of five schools taken from the ten highest performers (category 1) and five schools taken from the ten lowest performers (category 2).

About 90 Year 11 students from each school (mean age 16 years) completed three questionnaires administered in the penultimate term of the school year. Students provided data on their self-concept, attitudes to school and their approach to learning. Approximately 20 teachers from each school provided data on school organisation and leadership and perceptions of school outcomes related to their own performance, student performance, school culture, and the curriculum.

Instruments

The Learning Process Questionnaire (Biggs, 1987b) assesses 'deep', 'surface' and 'achieving' approaches to learning using a 36 item self-report questionnaire. This instrument consists of six subscale scores: Surface Motive and Surface Strategy, Deep Motive and Deep Strategy, and Achieving Motive and Achieving Strategy; three scale scores: Surface Approach, Deep Approach, and Achieving Approach; and one composite Deep-Achieving Approach score. Student responses indicate on a 5-point Likert scale whether the statement is "never or only true of me" (value of 1) ranging to "always or almost always true of me" (value of 5).

School and You Student Questionnaire (Ainley, 1990) is a 40 item attitude questionnaire that provides information on seven domains of schooling (achievement, opportunity, status, social integration, teachers, negative affect and general satisfaction). This instrument gauges students' attitudes to school for interpretation at three levels - individual items, sub scale scores, and overall attitudes. Students respond about their views of school indicating their agreement on a self-report 4-point Likert scale ranging from strongly agree (value 1) to strongly disagree (value 4).

Self Description Questionnaire-III (Marsh & O'Neill, 1984) contains 136 items measuring multiple dimensions of adolescent self-concept including specific intellectual, personal and social factors as well as a general self-concept factor (13 separate areas). The SDQIII assesses students' self-concept across multiple dimensions. Students respond to declarative sentences with one of eight responses: 1= Definitely False, 2= False, 3= Mostly False, 4= More False than True, 5= More True than False, 6= Mostly True, 7= True, 8= Definitely True.

Leadership in Schools Questionnaire (Silins, 1994) has 106 items consisting of 62 items (Part A) related to eight aspects of leadership, and 44 items (Part B) tapping teachers' perceptions related to school outcomes associated with student performance, school curriculum, teachers and school culture. A Likert scale with four response categories was employed with response options ranging from strongly disagree (value 1) to strongly agree (value 4).

Analysis

A hierarchical multivariate analysis of variance was used to analyse the data employing the SPSS program to take account of the cluster sample design. Figure 1 illustrates the school as the macro unit of analysis. Individual schools are nested under the two categories, and the responses of the students and teachers are nested under the schools to represent the micro unit of analysis.

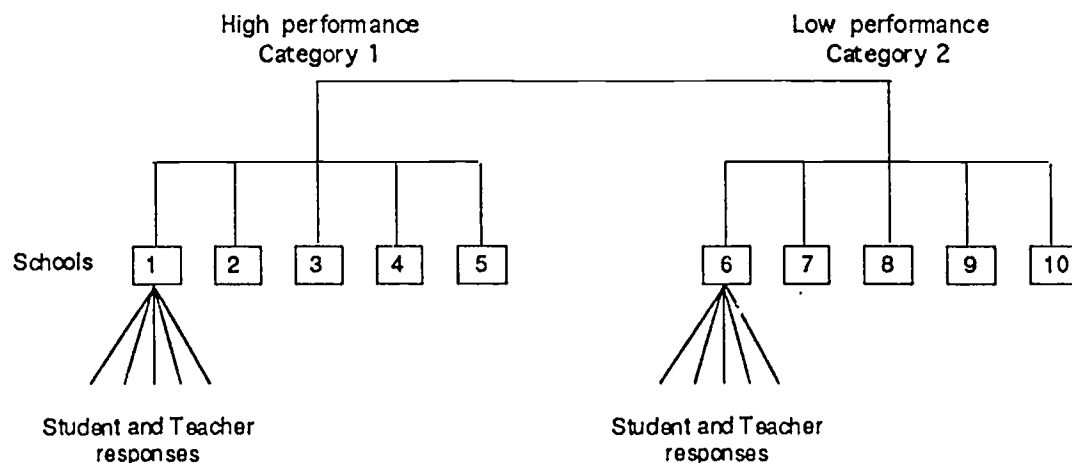


Figure 1. Cluster sample design.

Results

The results of the multivariate analyses and tables summarising the significant effects are presented separately for each questionnaire. The Wilks' criterion is employed as the multivariate test of significance with $p < 0.05$ level of acceptance. The complete results for the MANOVA are presented in the Appendix which also contains the means, standard deviations, skewness and kurtosis for all constructs.

Learning approaches

For both the between and within category multivariate tests (Table 1), there are no significant differences overall between high and low performance schools on students' approach to learning. However, students' Surface Approach in high performance schools is significantly lower than that of students in low performance schools.

The significance test shows a difference between the mean scores on Deep Approach which is found to occur within the high performance schools. This difference is also found to occur in this category for Deep Strategy and Deep Achieving Approach.

Table 1
Summary of Significant Results for Analysis of Variance (MANOVA) on Students' Approach to Learning for High and Low Performance Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Approach To Learning						
Multivariate Test						
Between categories (10,289)df			1.72	0.074		
Within categories (80,1842)df					1.21	0.107
Univariate Test						
Between categories (1,298)df						
Within categories (8,298)df						
Surface Motive	19.69	20.98	7.47	0.007**	0.88	0.533
Surface Strategy	17.11	18.27	5.72	0.017**	0.98	0.454
Deep Strategy	16.10	16.37			2.09	0.037*
Surface Approach	36.69	39.25	10.94	0.001***	1.14	0.339
Deep Approach	34.78	35.22			2.14	0.032*
Deep Achieving Approach	67.67	69.98			1.99	0.048*

Omitted scales without significance are: Deep Motive, Achieving Motive, Achieving Strategy, Achieving Approach.

Attitudes to school Life

In the case of students' attitudes to school life (Table 2), the multivariate tests indicate highly significant differences between low and high performance schools as well as significant variations within each category.

The nature of this questionnaire's response categories requires a reversed interpretation of the mean size: the higher the mean, the less favourable the attitude toward school life. Inspection of the means indicate that the more favourable attitudes towards school life are found in the high performance schools.

The strength of the difference between high and low performance schools is due to student attitudes in four domains: General Satisfaction, Teacher Relations, Status and Achievement. Significant differences within the categories are due to individual school variations in General Satisfaction, Teacher Relations, Status and Social Integration.

Table 2
Summary of Significant Results for Analysis of Variance (MANOVA) on Students' Attitude to School Life for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Attitude to School Life						
Multivariate Test						
Between categories (7,313)df			3.98	0.000***		
Within categories (56,1691)df					2.17	0.000***
Univariate Test						
Between categories (1,319)df						
Within categories (8,319)df						
General Satisfaction	2.35	2.54	13.56	0.000***	3.37	0.001**
Teacher Relations	2.15	2.29	5.12	0.024*	2.48	0.013*
Status	2.19	2.32	9.19	0.003**	2.85	0.005**
Social Integration	1.95	2.01			2.81	0.005**
Achievement	1.92	2.11	17.15	0.000***		

Omitted scales without significance are: Opportunity, Negative Affect.

Self-concept

Significant variations in the self-concept data are found both between the high and low performance schools and within the two categories (Table 3). Only one of the three factors contributing to the significant difference between high and low performance schools is an academic self-concept factor, General Academic. The two non academic factors are Spiritual Values/Religion and Honesty/Trustworthiness.

Students in high performance schools have a stronger academic self-concept and perceive themselves as more honest and trustworthy. Students in the low performance schools exhibited a stronger self-concept related to spiritual values and religion.

The significant difference found within categories is mainly due to the variability among schools on Mathematics and Spiritual Values/Religion.

Table 3
Summary of Significant Results for Analysis of Variance (MANOVA) on Students' Self-concept for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Self-concept						
Multivariate Test						
Between categories (13,295)df			3.57	0.000***		
Within categories (104,2042)df					1.52	0.001***
Univariate Test						
Between categories (1,307)df						
Within categories (8,307)df						
Mathematics	4.61	4.59			2.01	0.045*
General Academic	5.35	4.86	7.45	0.007**		
Spiritual Values/Religion	3.76	4.38	13.69	0.000***	2.27	0.022*
Honesty/Trustworthiness	5.70	5.46	4.72	0.031*		

Omitted scales without significance are: Verbal, Problem Solving, Physical Ability, Appearance, Same Sex Relations, Opposite Sex Relations, Parent Relations, Emotional Stability, General Esteem.

School organisation and leadership

Significant differences are found in teachers' perceptions of school organisation and leadership between high and low performance schools as well as within these categories (Table 4).

Three leadership behaviours contribute significantly to the difference between categories: Collaborative Problem Solving, Technical/Bureaucratic Orientation and Management-by-exception. Two quality of school organisation and outcomes measures, Student Outcomes and School Culture, also differentiate between the categories. Collaborative Problem Solving is significantly higher in the low performance category of schools as is Management-by-exception. Bureaucratic orientation is more likely to be found in the high performance schools together with higher ratings of Student Outcomes and more positive attitudes toward the School Culture.

All the constructs except teachers' perceptions of quality of Teacher Outcomes contribute to significant variations among individual schools within the categories.

Table 4
Summary of Significant Results for Analysis of Variance (MANOVA) on Teachers' Perceptions of School Organisation and Leadership for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Multivariate Test						
Between categories (12,158)df			18.17	0.000***	4.41	0.000***
Within categories (96,1075)df						
Univariate Test						
Between categories (1,169)df						
Within categories (8,169)df						
Vision	2.88	2.81			12.73	0.000***
Goal Achievement	3.04	2.94			6.35	0.000***
Intellectual Stimulation	2.71	2.73			6.87	0.000***
Individual Consideration/Support	2.84	2.97			6.62	0.000***
Collaborative Problem Solving	2.60	2.79	8.53	0.004**	8.03	0.000***
Ethos	2.99	3.01			10.64	0.000***
Technical/Bureaucratic	2.44	2.32	6.21	0.014*	3.43	0.001**
Management-by-exception	2.16	2.28	6.08	0.015*	2.32	0.022*
Student Outcomes	3.34	2.82	85.18	0.000***	6.18	0.000***
Curriculum Outcomes	3.19	2.94			2.29	0.024*
School Culture	3.13	2.99	7.75	0.006**	3.47	0.001**

Omitted scale without significance is: Teacher Outcomes.

Discussion

This study set out to investigate whether indicators of quality schooling such as identified in McGaw et al (1992) and represented here by students' views on learning approaches, self-concept and attitudes to school life, are related to more traditional indicators of school performance such as achievement scores. Also, teachers' perceptions of school organisation and leadership were examined in order to throw light on the kinds of organisational practices that promote a context for student academic success.

Approaches to learning

Overall, Secondary schools students' approaches to learning do not appear to differentiate between high and low performance schools. Students' academic success in year 12 does not rely on a particular approach to learning. However, senior school students in high performing schools are less likely to employ an approach to learning and studying that is characterised by minimal effort and rote learning.

There is insufficient evidence to suggest that students in the more successful schools are predominantly intrinsically motivated and employ deep strategies. Too great a variation in student learning approaches exists among individual schools to support the notion that deep approaches to learning are aligned with academic success. It appears that students are pragmatists when it comes to achieving academic success and employ a mix of surface and deep approaches as their circumstances warrant. The responses of students suggests that the school environment in low performance schools supports a more surface approach to learning and studying. In light of the evidence that links surface approach to lower levels of academic achievement, it is important for educational environments to encourage more adaptive approaches to learning and studying.

The results suggest that school academic success is not an adequate indicator of the quality of learning outcomes (e.g. students' use of desired learning approaches such as deep and deep achieving approaches). If quality schooling is measured by the quality of students' learning then even high performance schools do not necessarily provide quality schooling in those terms. The quality of students' learning may not be generally considered a valuable outcome in itself (Ramsden, et al, 1987) and perhaps for most schools it remains an intervening variable between teaching methods and the achievement of grades.

Attitudes to school life

Clearly, students' positive attitudes toward school and overall satisfaction with school life differentiate between high and low achieving schools. Students in the academically successful schools indicate not only higher levels of general satisfaction with school life but, in particular, express higher feelings of adequacy in their interactions with teachers and perceive themselves as accorded higher levels of prestige. Students in the high performance schools also perceive themselves as more successful in their school work (achievement). However, there are also large variations among individual schools within the categories in general satisfaction, teacher relations, prestige and social interaction.

Aspects of quality schooling such as developing positive student attitudes to school, and developing more confident and capable students do appear to be linked to high performance. There is support in these findings for Ainley et al (1991) who posits that students in high performance schools are more likely to succeed and further their education .

Self-concept

Positive academic self-concept does appear to discriminate between high and low performance schools. Furthermore, this study provides support for Marsh's (1990) findings that academic achievement is unrelated to general self-esteem (General Esteem), which does not distinguish between the two categories of schools. High performance schools encourage academic success and support a positive academic self-concept.

The results of this study point to the need to separate out the various facets of academic self-concept. Particular note should be taken of the academic self-concept which distinguishes between high and low performing schools. Correlations between the self-concept scales, not included as part of this report, do indicate a strong positive correlation between Maths self-concept and General Academic self-concept but not between Verbal self-concept or Problem Solving ability and General Academic self-concept. Therefore, this finding is consistent with Marsh, Byrne & Shavelson (1988) who found that school self-concept was substantially related to school achievement.

The significantly stronger response on Spiritual Values/Religion for the low performance schools may be related to the religious affiliation of the schools in this category. Interestingly, the high self-concept related to Spiritual Values and Religion in the low performance schools does not result in students perceiving themselves as more honest and trustworthy. In fact, students' self perceptions of honesty and trustworthiness is stronger in the high performance schools.

School organisation and leadership

There is a difference in teachers' perceptions of the organisation and leadership between the two categories of schools. The high performance schools have leadership that is more likely to be

characterised as bureaucratic, task and policy driven, reacting to change independently of staff needs and concerns. The teachers in these schools, however, assess their students' learning, attitudes and performance significantly more positively than do teachers in the lower performance category. They also perceive leadership effects on school culture significantly more positively than the teachers in the lower performance group.

Participatory decision making and collaborative problem solving is the more predominant leadership style in low performance schools. While this style of leadership is advocated as a means to achieve high performance outcomes and to create a more collegial workplace environment, staff in low performance schools indicate that neither of these goals is being realised. More research is needed to explore the nature of the relationship between collaborative schools and school performance. Perhaps there is an optimal level of participatory decision making for effectiveness beyond which the time given to collaborative endeavour becomes unproductive.

Low performance schools are also characterised by non-interventionist leadership that operates to maintain the *status quo*. Teachers in these schools may have more opportunity to be part of the decision making process but in some schools this may be due to the lack of leadership in the school (Silins, 1992). Teachers are significantly less satisfied with student performance and the school culture in these schools.

This study indicates that Collaborative Problem Solving, Bureaucratic Orientation and Management-by-exception are three leadership and organisational factors that distinguish the context for learning established by high and low achieving schools, but not Vision, Goal Achievement, Intellectual Stimulation, Individual Consideration and Ethos on which there is greater variability between individual schools.

Lee et al (1993) suggest that effective secondary schools identified by achievement measures are characterised by a sense of community developed around a shared purpose and reflected in the academic organisation of the school. Descriptions such as this are too non specific and could apply to both the high and low performance schools in this study. However, to the extent that this description implies a collaborative problem solving environment for effective schools, there is little evidence to support this description. High performance schools are more bureaucratically organised to promote administrative efficiency. As already noted, teachers in the low performance and more collaborative schools did not assess the school culture nor their students' performance more positively.

All but one of the school organisation and leadership factors contribute to the wide variation that is observed among individual schools. Teachers' perceptions of the quality of Teacher Outcomes appear unrelated to school achievement and to the variations observed among individual schools. All other factors are interrelated and contribute significantly to providing the wide variation observed among individual schools.

Conclusion

What does this study reveal about quality schooling and school performance? Quality schooling has been described as more than achieving high academic scores. The Australian school community is reported to place more emphasis on producing high school graduates who are skilled learners, competent problem solvers, independent thinkers and confident, well-rounded individuals. To assess the quality of schooling for students, the broader purposes and goals of education such as positive attitudes to school, positive perceptions of themselves as learners, and the development of adaptive approaches to learning and studying, need to be considered along with more narrowly defined performance outcomes. Are high performance schools offering students a qualitatively superior learning environment than low performance schools in addition to achieving higher academic performance outcomes? This study suggests that this is partially the case.

According to the observations made by students and teachers in this study, high performance schools are more likely to provide quality schooling than low performance schools. It appears that high achieving schools provide a context for working and learning that is more effective across a range of school outcomes. The aspect of quality schooling that stands out as not adequately addressed in high performance schools is that of quality of learning. Students' approaches to

learning indicate that academic success may be achieved without necessarily developing a deep approach to learning.

The performance of schools is often assessed by achievement measures related to student performance scores. This suggests that school academic success is synonymous with quality schooling. Does striving to achieve academically result in schools that produce the kind of graduates desired by the community? Only to some extent, although it does seem to be moving in that direction more so than the current literature on quality schooling seems to suggest. Schools striving for academic success do not achieve their goals by focussing solely on performance outcomes. This study shows that high performance schools do embrace the broader goals of quality schooling to develop student characteristics that help them achieve academically. Positive attitudes to school, confidence in their work, good relationships with teachers, strong academic self-concept all contribute to the cycle of positive attitudes that help students succeed.

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Appendix

Table 1
Motive and Strategy in Approaches to Learning

Approach	Motive	Strategy
Surface	To meet requirements minimally; a balancing act between failing and working more than is necessary. e.g. I think that teachers shouldn't expect secondary students to work on topics that are outside the set course.	To limit target to bare essentials and reproduce them often through rote learning. e.g. I tend to study only what's set; I usually don't do anything extra.
Deep	Intrinsic interest in what is being learned; to develop competence in academic subjects. e.g. I find that many subjects can become very interesting once you get into them.	To discover meaning by reading widely, inter-relating with previous relevant knowledge. e.g. While I am studying, I often try to think of how useful the material that I am learning would be in real life.
Achieving	To enhance ego and self-esteem through competition; to obtain high grades, whether or not material is interesting. e.g. I have a strong desire to do best in all of my studies.	To organise time and working space; to follow up suggestions, schedule time, behave as 'model' student. e.g. I always try to do all of my assignments as soon as they are given to me.

Following: Biggs, J. B. (1987). *Student Approaches to Learning and Studying*. Hawthorn, Victoria: Australian Council for Educational Research.

Table 2
Description of Constructs Comprising the School and You Questionnaire

Construct	Description
General Satisfaction	Reflects favourable feelings about school as a whole. e.g. My school is a place where I really like to go each day.
Teachers	Refers to a feeling about the adequacy of the interaction between teachers and students. e.g. My school is a place where teachers take a personal interest in helping me with my school work.
Status	Indicates the relative degree of prestige accorded to the individual by significant others within the school e.g. My school is a place where I know people think a lot of me.
Social Integration	Concerned with a sense of learning about other people and getting along with other people. e.g. My school is a place where I get on well with other students in my class.
Opportunity	Represents a belief in the relevance of schooling for the future. e.g. My school is a place where the things I am taught are worthwhile learning.
Achievement	Reflects a sense of confidence in one's ability to be successful in school work. e.g. My school is a place where I always achieve a satisfactory standard in my work.
Negative Affect	Refers to negative feelings about school. e.g. My school is a place where I feel worried.

From: Ainley, J. (1994). *Multiple indicators of high school effectiveness*. Paper presented to the Annual Meeting of the American Educational Research Association, New Orleans, April 1994.

Table 3
Constructs Comprising the Self Description Questionnaire (SDQ) III

Construct	Description
Academic	
Mathematics	Math skills/reasoning abilities. e.g. I have always done well in mathematics classes.
Verbal	Verbal skills/reasoning abilities. e.g. Relative to most people, my verbal skills are quite good.
Academic	General academic competence. e.g. I learn quickly in most academic subjects.
Problem solving	Perceptions of self as a problem solver/creative thinker. e.g. I have a lot of intellectual curiosity.
Nonacademic	
Physical ability	Sporting and physical activity. e.g. I enjoy sports and physical activity.
Appearance	Physical attractiveness and appearance. e.g. I have nice facial features.
Same sex peers	Same sex peer interactions/relationships. e.g. I share a lot of activities with members of the same sex.
Opposite sex peers	Interactions and relationships with members of the opposite sex. e.g. I make friends easily with members of the opposite sex.
Parents	Interactions and relationships with parents. e.g. My parents understand me.
Spiritual/Religion	Spiritual values and religious beliefs. e.g. I am a better person as a consequence of my spiritual/religious beliefs.
Honesty	Honesty and trustworthiness. e.g. I never cheat.
Emotional	Emotional stability. e.g. I do not spend a lot of time worrying about things.
General	
General self	Self-respect, self-confidence, self-acceptance, positive self-feelings and a good self-concept. e.g. Overall, I have pretty positive feelings about myself.

Following: Marsh, H. W. (1990). *Self description questionnaire III (SDQIII) manual*. University of Western Sydney, Macarthur, NSW, Australia.

Table 4
Conceptual and Operational Definitions of Leadership in Schools Questionnaire

Construct	Description
Vision	Creates a shared vision, perpetuates a common understanding of what the school is attempting to achieve for students, teachers and parents. e.g. Takes the long view of how things might be in this school.
Goal Achievement	Transmits a sense of purpose and organisational mission, builds a commitment to change and improved performance. e.g. Encourages us to evaluate our progress toward achievement of school goals.
Intellectual stimulation	Encourages questioning of own and others' assumptions, beliefs and values and promotes understanding. e.g. Provides information that helps me think of ways to implement initiatives.
Individual Consideration	Responds to individual differences in followers' needs and provides resources for growth and development; recognises effort and achievement. e.g. Offers personal encouragement for my good performance.
Collaborative Problem Solving	Encourages collaboration and participative decision making, develops goals by consensus, promotes collegiality and negotiation. e.g. Involves staff in program planning and decision-making.
School Ethos	Concern with building a system of shared values, expectations and behaviours. e.g. Builds a positive school climate; stresses collegiality.
Technical/Bureaucratic Orientation	Task focussed and policy driven, approaches change independently of followers' concerns and needs and strives to attain administrative efficiency. e.g. Is more aptly described as a manager than a leader.
Management-by-exception	Avoids giving directions if the old ways are working; concentrates on maintaining the <i>status quo</i> rather than seizing opportunities for change. e.g. Does not try to change anything as long as things are going all right.
Student Outcomes	Improved student outcomes related to leadership and school organisation. e.g. Students develop a commitment to learning in this school.
Curriculum Outcomes	Improved curriculum outcomes related to leadership and school organisation. e.g. We regularly monitor the effects of curriculum choices on students' learning.
Teacher Outcomes	Improved teacher outcomes related to leadership and school organisation. e.g. I monitor and self-evaluate my teaching regularly.
School Culture	Enhanced school culture related to leadership and school organisation. e.g. I have a sense of pride in what we are doing here.

From: Silins, H. C. (1994). Leadership characteristics that make a difference to schools. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

Table 5
Results for Analysis of Variance (MANOVA) on Students' Approach to Learning, Academic Self-concept, Attitude to School Life, and Teachers' Perception of School Organisation and Leadership for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Approach To Learning						
Multivariate Test						
Between categories (10,289)df			1.72	0.074		
Within categories (80,1842)df					1.21	0.107
Univariate Test						
Between categories (1,298)df						
Within categories (8,298)df						
Surface Motive	19.69	20.98	7.47	0.007**	0.88	0.533
Surface Strategy	17.11	18.27	5.72	0.017**	0.98	0.454
Deep Motive	18.62	18.86	0.29	0.593	1.69	0.099
Deep Strategy	16.10	16.37	0.29	0.592	2.09	0.037*
Achieving Motive	18.32	19.03	1.35	0.245	1.62	0.118
Achieving Strategy	14.87	15.67	2.10	0.148	1.72	0.094
Surface Approach	36.69	39.25	10.94	0.001***	1.14	0.339
Deep Approach	34.78	35.22	0.29	0.593	2.14	0.032*
Achieving Approach	33.25	34.84	2.96	0.086	1.75	0.087
Deep Achieving Approach	67.67	69.98	2.06	0.152	1.99	0.048*
Attitude to School Life						
Multivariate Test						
Between categories (7,313)df			3.98	0.000		
Within categories (56,1691)df					2.17	0.000
Univariate Test						
Between categories (1,319)df						
Within categories (8,319)df						
General Satisfaction	2.35	2.54	13.56	0.000***	3.37	0.001**
Teacher Relations	2.15	2.29	5.12	0.024*	2.48	0.013*
Status	2.19	2.32	9.19	0.003**	2.85	0.005**
Social Integration	1.95	2.01	2.07	0.151	2.81	0.005**
Opportunity	2.00	2.07	2.20	0.139	0.96	0.466
Achievement	1.92	2.11	17.15	0.000***	1.49	0.159
Negative Affect	2.83	2.83	0.02	0.901	1.67	0.106

Table 5 (Continued)

Results for Analysis of Variance (MANOVA) on Students' Approach to Learning, Academic self-concept, Attitude to School Life, and Teachers' Perception of School Organisation and Leadership for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Self-concept						
Multivariate Test						
Between categories (13,295)df			3.57	0.000		
Within categories (104,2042)df					1.52	0.001
Univariate Test						
Between categories (1,307)df						
Within categories (8,307)df						
Mathematics	4.61	4.59	0.02	0.899	2.01	0.045*
Verbal	5.48	5.36	0.96	0.328	1.60	0.123
General Academic	5.35	4.86	7.45	0.007**	1.73	0.090
Problem Solving	4.73	4.95	2.71	0.101	1.79	0.078
Physical Ability	5.44	5.53	0.05	0.820	1.76	0.084
Appearance	4.47	4.42	0.32	0.571	1.50	0.155
Same Sex Relations	5.81	5.76	0.18	0.675	0.60	0.778
Opposite Sex Relations	5.03	5.23	2.20	0.139	1.30	0.243
Relations with Parents	5.66	5.36	3.83	0.051	1.90	0.060
Spiritual Values/Religion	3.76	4.38	13.69	0.000***	2.27	0.022*
Honesty/Trustworthiness	5.70	5.46	4.72	0.031*	1.84	0.069
Emotional Stability	5.09	5.01	0.44	0.506	1.66	0.108
General Esteem	5.77	5.54	2.80	0.095	1.55	0.140

Table continues

Table 5 (Continued)

Results for Analysis of Variance (MANOVA) on Students' Approach to Learning, Academic Self-concept, Attitude to School Life, and Teachers' Perception of School Organisation and Leadership for High and Low Performing Schools

Variable	Means		Between		Within	
	High Category	Low Category	F	p	F	p
Multivariate Test						
Between categories (12,158)df			18.17	0.000		
Within categories (96,1075)df					4.41	0.000
Univariate Test						
Between categories (1,169)df						
Within categories (8,169)df						
Vision	2.88	2.81	0.21	0.647	12.73	0.000***
Goal Achievement	3.04	2.94	3.09	0.081	6.35	0.000***
Intellectual Stimulation	2.71	2.73	0.51	0.477	6.87	0.000***
Individual Consideration	2.84	2.97	2.51	0.115	6.62	0.000***
Collaborative Problem Solving	2.60	2.79	8.53	0.004**	8.03	0.000***
Ethos	2.99	3.01	0.26	0.614	10.64	0.000***
Technical/Bureaucratic	2.44	2.32	6.21	0.014*	3.43	0.001**
Management-by-exception	2.16	2.28	6.08	0.015*	2.32	0.022*
Student Outcomes	3.34	2.82	85.18	0.000***	6.18	0.000***
Curriculum Outcomes	3.19	2.94	1.90	0.170	2.29	0.024*
Teacher Outcomes	2.90	2.97	1.31	0.255	1.75	0.089
School Culture	3.13	2.99	7.75	0.006**	3.47	0.001**

Table 6

Summary of descriptive statistics on students' approach to learning, academic self-concept, attitude to school life, and teachers' perception of school organisation and leadership

Variable	Mean (SD)	Skewness	Kurtosis
Approach to Learning (N=308)			
Surface Motive	20.31 (4.05)	-0.176	-0.405
Surface Strategy	17.70 (4.15)	0.099	-0.486
Deep Motive	18.73 (3.97)	0.093	-0.187
Deep Strategy	16.24 (4.19)	0.089	-0.105
Achieving Motive	18.70 (4.88)	-0.196	-0.389
Achieving Strategy	15.28 (4.78)	0.228	-0.608
Surface Approach	37.98 (6.71)	-0.099	-0.306
Deep Approach	35.00 (7.23)	0.011	-0.048
Achieving Approach	33.99 (8.59)	-0.068	-0.545
Deep-Achieving Approach	68.86 (13.86)	-0.081	-0.072
School Life (N=329)			
General Satisfaction	2.44 (0.52)	0.252	0.382
Teacher Relations	2.22 (0.55)	0.582	0.971
Status	2.26 (0.46)	0.112	0.907
Social Integration	1.98 (0.44)	0.301	0.910
Opportunity	2.03 (0.51)	0.333	0.562
Achievement	2.02 (0.46)	0.058	0.475
Negative Affect	2.83 (0.55)	-0.151	-0.270
Self-Concept (N=317)			
Mathematics	4.61 (1.49)	0.151	-0.621
Verbal	5.43 (1.15)	-0.092	-0.641
General Academic	5.08 (1.39)	-0.453	-0.046
Problem Solving	4.85 (0.97)	0.100	0.091
Physical Ability	5.51 (1.64)	-0.515	-0.502
Appearance	4.47 (1.47)	-0.265	-0.495
Same Sex Relations	5.79 (0.94)	-0.416	0.828
Opposite Sex Relations	5.13 (1.13)	-0.239	-0.594
Relations With Parents	5.51 (1.29)	-0.621	0.315
Spiritual Values/Religion	4.07 (1.52)	0.247	-0.706
Honesty/Trustworthiness	5.58 (0.93)	-0.283	-0.196
Emotional Stability	5.07 (1.21)	-0.223	-0.371
General Esteem	5.67 (1.31)	-0.569	-0.035
School Leadership (N=179)			
Vision	2.83 (0.55)	-0.431	0.264
Goal Achievement	2.98 (0.44)	-0.557	1.306
Intellectual Stimulation	2.71 (0.50)	-0.345	0.509
Individual Consideration	2.90 (0.63)	-0.357	-0.053
Problem Solving	2.68 (0.54)	-0.124	-0.155
Ethos	2.99 (0.48)	-0.359	0.385
Technical/Bureaucratic	2.38 (0.35)	-0.076	0.219
Management-by-exception	2.23 (0.32)	-0.121	0.508
Student Outcomes	3.06 (0.50)	-0.502	1.182
Curriculum Outcomes	2.97 (0.42)	0.244	0.073
Teacher Outcomes	2.93 (0.43)	-0.273	0.605
School Culture	3.04 (0.39)	-0.110	0.218